EDITORIAL

NEWS OF THE WEEK

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PERSPECTIVES

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COVER

False-color, aberration-corrected transmission electron microscope image of a suspended single atomic layer of graphene. When an electron beam induces ejection of an atom from the edge of an intentionally made ~3-nm hole (black), the hole enlarges; the remaining edge carbon atoms rearrange from perfect hexagons into predicted metastable configurations. See page 1705.

Image: Zettl Research Group and National Center for Electron Microscopy, Lawrence Berkeley National Laboratory; 3D visualization via WSxM software

DEPARTMENTS

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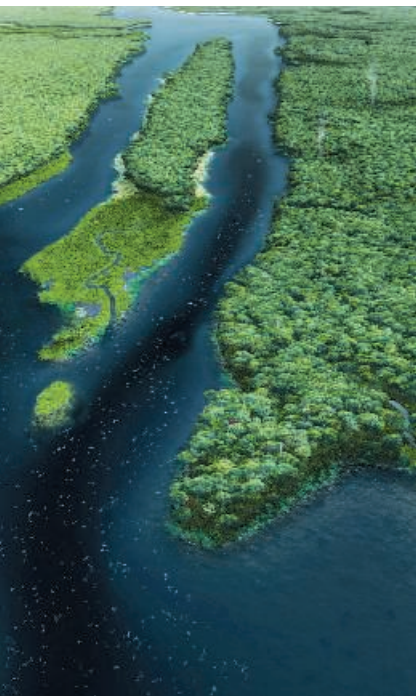

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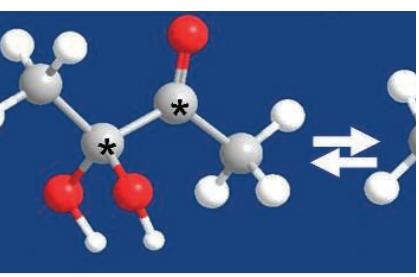

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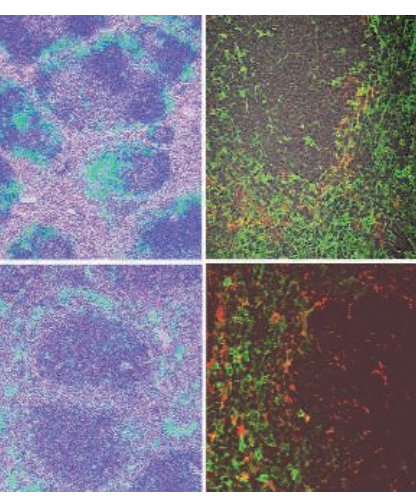

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RESEARCH ARTICLES

REPORTS

Published by AAAS

SCIENCEONLINE

SCIENCEXPRESS
www.sciencexpress.org

Human Induced Pluripotent Stem Cells Free of Vector and Transgene Sequences
J. Yu et al.

Human induced pluripotent stem cells can be generated without integration of exogenous DNA into their genomes.
10.1126/science.1172482

Sequential Regulation of DOCK2 Dynamics by Two Phospholipids During Neutrophil Chemotaxis
A. Nishikimi et al.

The signaling lipid phosphatidic acid links chemoattractant signals to directional movement of neutrophils.
10.1126/science.1170179

A Frazzled/DCC-Dependent Transcriptional Switch Regulates Midline Axon Guidance
L. Yang et al.

A single receptor in *Drosophila* is involved in two molecular strategies that coordinate axon guidance.
10.1126/science.1171320

The Role of Aerosols in the Evolution of Tropical North Atlantic Ocean Temperature Anomalies
A. T. Evan et al.

Changes in tropical North Atlantic sea surface temperatures are caused by variability in atmospheric aerosol abundances.
10.1126/science.1167404

Asymmetric Autocatalysis Triggered by Carbon Isotope ($^{13}C/^{12}C$) Chirality
T. Kawasaki et al.

The origin of chirality in asymmetric autocatalysis is due to carbon isotope substitution.
10.1126/science.1170322

SCIENCENOW
www.sciencenow.org
Highlights From Our Daily News Coverage

When Frying the Hard Drive Is a Good Thing
Laser-assisted magnetic recording could greatly increase storage capacity.

Corn: It's Not for Cocktails
Scientists find earliest traces of maize—and discount a leading hypothesis about what it was used for.

Feel-Good Music Feels Good Around the World
African tribal people can tell whether a Western song is happy or sad.

SCIENCESIGNALING
www.sciencesignaling.org
The Signal Transduction Knowledge Environment

RESEARCH ARTICLE: An Intramolecular Switch Regulates Phosphoindependent FHA Domain Interactions in *Mycobacterium tuberculosis*
T. J. Nott et al.

Binding of Rv1827 to target proteins through its forkhead-associated (FHA) domain does not require their prior phosphorylation at threonine residues.

RESEARCH ARTICLE: Dynamic Signaling in the Hog1 MAPK Pathway Relies on High Basal Signal Transduction
J. Macia et al.

High intrinsic basal signaling in mitogen-activated protein kinase pathways ensures proper dynamic responses to environmental stimuli.

PERSPECTIVE: Challenges and Opportunities in Defining the Essential Cancer Kinome
B. D. Manning

RNAi screens for essential kinases reveal that the potential therapeutic kinase universe is larger than expected.

PERSPECTIVE: Amyloid Goes Global
I. Bezprozvanny

Amyloid plaques have farther-reaching effects on astrocytes than previously suspected.

MEETING REPORT: Signal Transduction—Receptors, Mediators, and Genes
F. Entschladen et al.

Cell signaling researchers gathered in Weimar, Germany for the annual meeting of the Signal Transduction Society.

PRESENTATION: Early Events of B Cell Activation by Antigen
D. Depoil et al.

B cells undergo membrane spreading and contraction during activation in response to antigen-presenting cells.

PODCAST
S. J. Smerdon and A. M. VanHook

The activity of a bacterial FHA domain–containing protein is regulated intramolecularly.

SCIENCECAREERS
www.sciencecareers.org/career_magazine
Free Career Resources for Scientists

Special Feature: Not What You Thought You'd Be Doing
E. Pain

A visual artist, a cartoonist, and a winemaker—all trained as scientists—are pursuing unexpected careers.

The Itinerant Artist
E. Pain

Angelo Vermeulen eventually reconciled his talent for the arts with his scientific curiosity.

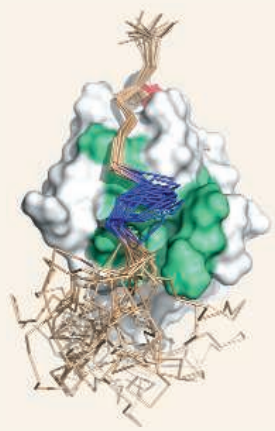
In Vino Oportunitas
A. Levine

Jeff Mangahas left scientific work to become an award-winning winemaker at Hartford Vineyards.
>> News story p. 1668

SCIENCEPODCAST
www.sciencemag.org/multimedia/podcast
Free Weekly Show

Download the 27 March *Science* Podcast to hear about genetic influences on cognition, visualizing HIV infection, professional science master's programs, and more.

SCIENCENOW
Corn's rock-hard history.



SCIENCESIGNALING
Rv1827 and its FHA domain.

ORIGINSBLOG
blogs.sciencemag.org/origins
A History of Beginnings

SCIENCEINSIDER
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Science Policy News and Analysis

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